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Dr. Vincent Salomonson, Earth Sciences Director
Goddard Space Flight Center
Greenbelt, MD 20771 (301) 614-5634
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Goddard Earth Sciences Update" is a weekly bulletin to keep management apprised of the latest accomplishments of Goddard's Earth Sciences Directorate. This newsletter is also accessible at http://www.gsfc.nasa.gov/

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In this Issue:

~~~ Assessment of 1997-98 El Nino Impact on the Asian-Australian monsoon

The years 1997-98 witnessed the most devastating and widespread climate anomalies around the world. The term "El Niño" has now become the vernacular of the land. Nearly everything under the sun has been blamed on the El Niño. Obviously, there is a great need to separate the facts from the hype.

In this paper, a statistical study was carried out, using rainfall data derived from NASA/TRMM rainfall algorithms and satellite-buoy-ship merged SST data to estimate the relative roles of El Niño, regional coupled processes and natural variability on the Asian-Australian monsoon region. The AA-region is especially vulnerable to climate fluctuation because over 60% of the world population reside in the region, whose social-economic well being is critically dependent on the vagaries of the monsoon climate.

It was found that by a new statistical measure, over the entire AA-region covering India, IndoChina, East Asia, the maritime continent and Australia, and the adjacent oceans, at most 50% of the observed 1997 summertime anomalies can be attributed to El Niño effect, about 25% was due to regional coupled processes distinct from El Niño and the remaining 25% due to internal variability. This is about the average for a 19 year period from 1979-1998. What it means is that more than 50% of the anomalies in the AA-monsoon region during 1997-98 were not due to El N Niño. In fact, for smaller regions, such as over all-India, the impact of El Niño was even less and
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difficult to detect. This may account for the observations that "somehow the impact of El Niño was different in 1997-98 compared to other El Niño 's".

In this paper, it is pointed out there are other specific regional factors that contributed to the AA-monsoon anomalies. Hence, the 1997-98 El Niño was not that omnipotent after all. Predicting the AA-monsoon remains a challenging task, even if one has perfect knowledge of El Niño.

Reference: Lau, K.M. and H. T. Wu, 1999: Assessment of the impacts of the 1997-98 El Nino on the Asian-Australian monsoon. Geophys. Res. Lett., 26, 1747-1750.

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For further information contact:
Dr. William K. M. Lau, Head, Code 913
(301) 614-6185
email: lau@climate.gsfc.nasa.gov

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